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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,609	05/18/2004	William Wang	12790-US-PA	3608

31561 7590 02/22/2007		EXAMINER
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE		VIDWAN, JASJIT S
7 FLOOR-1, NO. 100		
ROOSEVELT ROAD, SECTION 2		ART UNIT PAPER NUMBER
TAIPEI, 100		
TAIWAN		2182

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/709,609	WANG, WILLIAM
	Examiner	Art Unit
	Jasjit S. Vidwan	2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2004*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-10* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *18 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claim 7 objected to because of the following informalities: Applicant claims a "data extracter" in

claim 7, however it is believed that the Applicant has simply misspelled the term extracter. For the

purpose of timely prosecution, Examiner will use the corrected spelling of "extractor" herein after.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious
> at the time the invention was made to a person having ordinary skill in the art to which said
> subject matter pertains. Patentability shall not be negatived by the manner in which the invention
> was made.

3.   Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pattisam et al, U.S.

Patent No: 5,357,614 **[herein after Pattisam]** and further in view of Karpoff et at U.S. Patent No:

6,857,059 **[herein after Karpoff]**.

1.   **As per Claim 1**, Pattisam teaches a data compression/decompression device **[see Fig. 3,**

element 20, "Data compression controller"], suitable for compressing/decompressing **[see Col. 2,**

Lines 48-52 – the 'Data compression controller' decompresses data as well**]** a data transmitted between

a data generation device **[see Fig. 3, element 200, "Host or I/O channel"]** and a data storage device

[see Fig. 3, element 280, "SCSI Devices" – Also Col. 2, Lines 27-29 – SCSI Device could be storage

device**]**, comprising:

>   (a) Input buffer **[see Fig. 3, elements 210 & 211]**, for buffering and storing said data for
>
>   input **[see Col. 11, Lines 58-60]**

(b) Output buffer **[see Fig. 3, elements 250]**, for buffering and storing said data for

output **[see Col. 12, Lines 35-36]**

(c) Data compressor/decompressor **[see Fig. 3, elements 220, "Data compression

coprocessor"]**, coupled to said output buffer **[Fig. 3, elements 213 –** _Output data buffer_

is coupled to data compression coprocessor through compressed data bus 213**]**, for

compressing/decompressing said data for input and storing said data for output in said

output buffer **[see Col. 2, Lines 50-52]**

(d) Controller **[see Fig. 3, element 230, "Microprocessor"]**, coupled to said input buffer,

said output buffer and said data compressor/decompressor, for controlling data

transmission with said data generation device and said data storage device controlling

compressing/decompressing said data **[Col. 8, Lines 44-58,** _Microprocessor employs_

Data Comp coprocessor interface logic to control compression coprocessor**]**

Pattisam teaches the above limitations in addition to teaching a system wherein the

microprocessor issues starting and ending addresses to SCSI interface logic for the data located in the

data buffer (compressed data from host) **[see Col. 15, Lines 41-45]**. Pattisam goes further to disclose a

system wherein the SCSI controller interface logic after receiving the starting and ending addresses from

the microprocessor further identifies the addresses of the said data to the SCSI controller which is written

to external device (storage devices) **[Col. 12, Line 63 – Col. 13. Line 1]**. Therefore, it follows that

Pattisam teaches a microprocessor, which manages data addresses, issued by the host with that of

physical address of storing the data in said data storage device (via use of SCSI interface logic and SCSI

controller). However despite the above teachings, Pattisam fails to expressly teach performing the above

function by way of "address mapping table" which is the cross reference between an access address

transmitted from data generation device and physical address of storing the data in said data storage

device.

Karpoff teaches the above deficiency by teaching a system wherein the microprocessor manages

the mapping table which is the cross reference between an access address transmitted from data

generation device (host) and a physical address of storing the data in data storage device **[see Karpoff,**

Col. 4, Lines 23-36]. It would have been obvious to one of ordinary skill in the art at the time of

Applicant's invention to combine the two teachings in order to take advantage of having a system where

the host application never has to deal with volume resizing and spare capacity can be amortized across

multiple disk images, thus lowering the cost associated with "on reserve" storage capacity **[see Karpoff,**

Col. 3, Lines 46-64]

2.   **As per Claim 5**, Pattisam as modified by Karpoff above teaches a data

compression/decompression device, comprising:

> (a) Data storage device **[see Fig. 3, element 280, "SCSI Devices" – Also Col. 2, Lines**
>
> **27-29 –** *SCSI Device could be storage device***]** having a data transmission interface **[Fig.**
>
> **3, elements 260 & 270 – "SCSI controller Interface Logic" & "SCSI controller"]**
>
> (b) Data generation device **[see Fig. 3, element 200,** *"Host or I/O channel"***]**, accessing
>
> a data in said data storage device via said data transmission interface **[see Col. 2, Lines**
>
> **48-52]**; and a data compression/decompression device coupled to said data storage
>
> device and said data generation device via said data transmission interface **[see Fig. 3,**
>
> **element 20,** *"Data compression controller"***]**, for compressing/decompressing said
>
> data transmitted between said data storage device and said data generation device **[Col.**
>
> **4, Lines 17-24]** and managing an address mapping table which is the cross reference
>
> between an access address transmitted from said data generation and a physical
>
> address of storing said data storage device **[see Karpoff, Col. 4, Lines 23-36]**

3.   **As per Claim 2 and 7**, Pattisam as modified by Karpoff above teaches a device wherein said

controller includes:

> (a) Data generation control unit **[see Fig. 3, element 215, "Command/Data Registers**
>
> **Application Interface Logic"]**, for controlling data transmission with said data
>
> generation device
>
> (b) Data storage control unit **[Fig. 3, element 260, "SCSI controller Interface Logic"]**,
>
> for controlling data transmission with said data storage device

(c) Data extractor, for obtaining said data from said input buffer, extracting a

compressing/decompressing portion of said data, and sending said

compression/decompression portion of said data to said data compressor /

decompressor **[Fig. 3, element 216, "Data Comp coprocessor Interface Logic"]**

(d) Main control unit for coordinating and controlling said data generation control unit,

said data storage control unit, and said data extractor, and for managing said address

mapping **[Fig. 3, element 230, "Microprocessor"]**

4.   **As per Claim 3 and 8,** Pattisam as modified by Karpoff above teaches a device wherein said

data generation device is at least one of a host, a laptop computer, a microprocessor, an interface card

and a router **[see Fig. 3, element 200, *"Host or I/O channel"*]**

5.   **As per Claim 4 and 9,** Pattisam as modified by Karpoff above teaches a device wherein said

data storage device is at least one of a hard disk drive, floppy disk drive, a CD-RW drive, a magnetic-

optical device, a digital video recorder and a flash memory card **[see Col. 4, Lines 5-9, "...SCSI**

compatible device specifically a tape drive, for storage of data in a compressed format"]

6.   **As per Claim 6,** *see rejection of Claim 1 above*
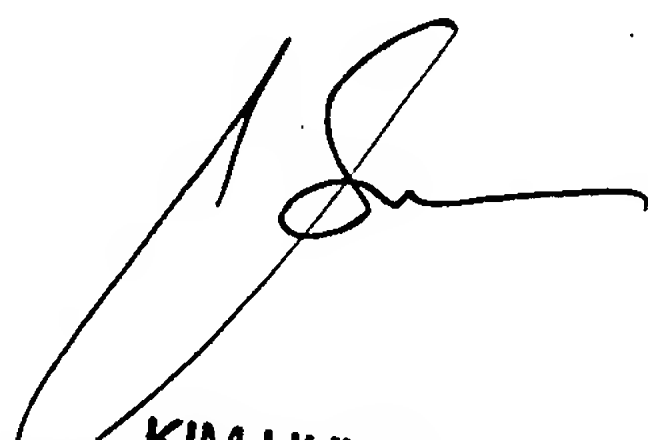

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Jasjit S. Vidwan whose telephone number is (571) 272-7936. The examiner can normally

be reached on 8am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KIM

HUYNH can be reached on (571) 272-4147. The fax phone number for the organization where this

application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSV
2/14/07

KIM HUYNH
SUPERVISORY PATENT EXAMINER

2/10/07